WHAT IS CLAIMED IS:

1. A flame-retardant cable comprising:

a transmission element;

a flammable element; and

a flame-retardant coating layer surrounding said flammable element, and made of a material based on a polymer obtained from a polymerizable liquid composition containing at least a precursor for said polymer including functional groups selected from acrylates, methacrylates, epoxies, vinyl ethers, allyl ethers, and oxetanes,

wherein said material includes at least one phosphorous group.

2. A flame-retardant cable according to claim 1, wherein said phosphorous group is chemically bonded to said polymer.

3. A flame-retardant cable according to claim 1, wherein the precursor of said polymer includes at least one phosphorous group.

4. A flame-retardant cable according to claim 1, wherein said material is halogen-free.

5. A flame-retardant cable according to claim 1, wherein said flammable element is selected from at least one of the following elements: an insulating layer; a sheathing layer; a reinforcing element; an optical fiber protection; a padding element; a groove core; a tape; and a braid.

6. A flame-retardant cable according to claim 1, wherein, when said flammable element is an insulating layer, said insulating layer is made from a material selected from a halogen-free thermoplastic polymer, and preferably a polyethylene.

7. A flame-retardant cable according to claim 1, wherein the transmission element is selected from a conductor of light and a conductor of electricity.

8. A flame-retardant cable according to claim 1, wherein said flame-retardant coating layer is made by applying said polymerizable liquid composition on said flammable element using a coating technique selected from spraying, dipping, impregnation, and application by means of a brush.

9. A flame-retardant cable according to claim 1, wherein said flame-retardant coating layer is made from a tape impregnated in said polymerizable liquid composition and wound on said flammable element.

10. A flame-retardant cable according to claim 1, wherein said polymerizable liquid composition contains a reactive diluant including an antiabrasion compound, preferably of bicyclic structure and containing at least one functional group that is selectively reactive with one of the functional groups of said polymer precursor.

11. A flame-retardant cable according to claim 10, wherein the number of parts by weight of said antiabrasion compound relative to 100 parts by weight of said liquid composition is less than 95.

12. A flame-retardant cable according to claim 10, wherein, when said antiabrasion compound contains at least one acrylate functional group, the acrylate equivalent weight of said antiabrasion compound is greater than 80.

13. A flame-retardant cable according to claim 1, wherein the liquid composition is polymerizable by actinic

radiation, and when said actinic radiation is of the UV type, the composition includes a photoinitiator.

14. A flame-retardant cable according to claim 13, wherein the number of parts by weight of said photoinitiator relative to 100 parts by weight of said composition lies in the range 0.1 to 10.

15. A flame-retardant cable according to claim 1, wherein the liquid composition is polymerizable by UV radiation and contains:

- 80 parts by weight of said polymer precursor, said precursor being a halogen-free oligomer;
- 17 parts by weight of an isobornyl acrylate; and
- 3 parts by weight of a photoinitiator.

16. A flame-retardant cable according to claim 11, wherein the number of parts by weight of said antiabrasion compound relative to 100 parts by weight of said liquid composition is in the range 10 to 30.

17. A flame-retardant cable according to claim 12, wherein, when said antiabrasion compound contains at least one acrylate functional group, the acrylate equivalent weight of said antiabrasion compound is about 210.

18. A flame-retardant cable according to claim 14, wherein the number of parts by weight of said photoinitiator relative to 100 parts by weight of said composition is about 3.